2.19 Population Pyramids: 1-hour Pack

EDEXCEL 1ST0 · Calculator allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A population pyramid for County D shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	370	370
20 to 39	510	140
40 to 59	110	300
60 and over	360	540

(a) Work out the number of people aged 60 and over.

(b) Write this as a percentage of the whole population. Give your answer to 1 decimal place.

(Total for Question 1 is 3 marks)

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2 A population pyramid for Village C shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	330	530
20 to 39	160	170
40 to 59	160	440
60 and over	560	110

(a) Find the total number of males and the total number of females.

(b) Write the ratio males : females in its simplest form.

(Total for Question 2 is 3 marks)

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3 40 people were asked about how a company's staff spend lunch breaks. The results are in the table.

Choice	Frequency
outside	3
shops	10
canteen	16
desk	11

A pie chart is to be drawn. Work out the angle for each choice. Show that the angles add up to 360 degrees.

(Total for Question 3 is 4 marks)

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4 A population pyramid for Village C shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	420	370
20 to 39	450	370
40 to 59	120	380
60 and over	410	280

(a) Work out the total population of Village C.

(b) How many more females than males are aged 20 to 39? (Write the difference, with a negative sign if there are fewer females.)

(Total for Question 4 is 4 marks)

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5 A population pyramid for County D shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	210	310
20 to 39	570	170
40 to 59	210	400
60 and over	450	230

(a) Work out the total population of County D.

(b) How many more females than males are aged 60 and over? (Write the difference, with a negative sign if there are fewer females.)

(Total for Question 5 is 4 marks)

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6 In a pie chart about types of film chosen at a cinema, the sector for cartoon has an angle of 63 degrees and 7 people chose cartoon. The sector for comedy has an angle of 117 degrees.

(a) Write the cartoon sector as a percentage of the whole.

(b) How many people chose comedy?

(Total for Question 6 is 4 marks)

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7 A population pyramid for County D shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	330	580
20 to 39	270	100
40 to 59	440	120
60 and over	530	390

(a) Work out the total population of County D.

(b) How many more females than males are aged 0 to 19? (Write the difference, with a negative sign if there are fewer females.)

(Total for Question 7 is 4 marks)

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8 A population pyramid for Region B shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	500	370
20 to 39	560	390
40 to 59	290	300
60 and over	340	430

(a) Work out the number of people aged 60 and over.

(b) Write this as a percentage of the whole population. Give your answer to 1 decimal place.

(Total for Question 8 is 3 marks)

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9 In a pie chart about pets owned by families, the sector for cat has an angle of 72 degrees and 12 people chose cat. The sector for rabbit has an angle of 126 degrees.

(a) Write the cat sector as a percentage of the whole.

(b) How many people chose rabbit?

(Total for Question 9 is 4 marks)

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10 A population pyramid for Village C shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	270	260
20 to 39	230	250
40 to 59	160	590
60 and over	140	290

(a) Work out the number of people aged 60 and over.

(b) Write this as a percentage of the whole population. Give your answer to 1 decimal place.

(Total for Question 10 is 3 marks)

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11 A pie chart shows fruit chosen at a tuck shop. The angles of the sectors are in the table.

Choice	Angle
pear	72 degrees
apple	36 degrees
orange	84 degrees
grapes	168 degrees

14 people chose grapes.

(a) Work out how many people were asked altogether.

(b) Work out how many people chose pear.

(Total for Question 11 is 4 marks)

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12 A population pyramid for Town A shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	170	380
20 to 39	240	200
40 to 59	200	240
60 and over	220	360

(a) Work out the number of people aged 60 and over.

(b) Write this as a percentage of the whole population. Give your answer to 1 decimal place.

(Total for Question 12 is 3 marks)

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13 A pie chart shows types of film chosen at a cinema. The angles of the sectors are in the table.

Choice	Angle
action	45 degrees
horror	45 degrees
comedy	75 degrees
drama	90 degrees
cartoon	105 degrees

6 people chose drama.

(a) Work out how many people were asked altogether.

(b) Work out how many people chose cartoon.

(Total for Question 13 is 4 marks)

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14 A population pyramid for Region B shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	420	300
20 to 39	550	400
40 to 59	290	400
60 and over	540	200

(a) Find the total number of males and the total number of females.

(b) Write the ratio males : females in its simplest form.

(Total for Question 14 is 3 marks)

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15 A population pyramid for Region B shows the number of males (left) and females (right) in each age group.

Age group	Males	Females
0 to 19	150	280
20 to 39	590	570
40 to 59	170	420
60 and over	570	200

(a) Find the total number of males and the total number of females.

(b) Write the ratio males : females in its simplest form.

(Total for Question 15 is 3 marks)

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16 A pie chart shows fruit chosen at a tuck shop. The angles of the sectors are in the table.

Choice	Angle
orange	72 degrees
grapes	87 degrees
banana	9 degrees
pear	12 degrees
apple	180 degrees

3 people chose banana.

(a) Work out how many people were asked altogether.

(b) Work out how many people chose pear.

(Total for Question 16 is 4 marks)

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Mark scheme · 2.19 Population Pyramids: 1-hour Pack

Question 1

900 cao	**B1**
900 / 2700 x 100	**M1**
33.3% cao	**A1**

Answer: (a) 900; (b) 33.3%

Question 2

males 1210, females 1250	**B1**
divides by a common factor	**M1**
121 : 125 cao	**A1**

Answer: (a) 1210, 1250; (b) 121 : 125

Question 3

360 / 40 = 9 degrees per person	**M1**
at least 3 angles correct	**A1**
all angles 27, 90, 144, 99 cao	**A1**
angles sum to 360	**B1**

Answer: 27, 90, 144, 99

Question 4

adds all eight values	**M1**
2800 cao	**A1**
female minus male for the age group	**M1**
-80 cao	**A1**

Answer: (a) 2800; (b) -80

Question 5

adds all eight values	**M1**
2550 cao	**A1**
female minus male for the age group	**M1**
-220 cao	**A1**

Answer: (a) 2550; (b) -220

Question 6

63 / 360 x 100	**M1**
17.5%	**A1**
117 / 63 x 7	**M1**
13 cao	**A1**

Answer: (a) 17.5%; (b) 13

Question 7

adds all eight values	**M1**
2760 cao	**A1**
female minus male for the age group	**M1**
250 cao	**A1**

Answer: (a) 2760; (b) 250

Question 8

770 cao	**B1**
770 / 3180 x 100	**M1**
24.2% cao	**A1**

Answer: (a) 770; (b) 24.2%

Question 9

72 / 360 x 100	**M1**
20%	**A1**
126 / 72 x 12	**M1**
21 cao	**A1**

Answer: (a) 20%; (b) 21

Question 10

430 cao	**B1**
430 / 2190 x 100	**M1**
19.6% cao	**A1**

Answer: (a) 430; (b) 19.6%

Question 11

14 / 168 or 360 / 168 x 14	**M1**
30 cao	**A1**
72 x 30 / 360	**M1**
6 cao	**A1**

Answer: (a) 30; (b) 6

Question 12

580 cao	**B1**
580 / 2010 x 100	**M1**
28.9% cao	**A1**

Answer: (a) 580; (b) 28.9%

Question 13

6 / 90 or 360 / 90 x 6	**M1**
24 cao	**A1**
105 x 24 / 360	**M1**
7 cao	**A1**

Answer: (a) 24; (b) 7

Question 14

males 1800, females 1300	**B1**
divides by a common factor	**M1**
18 : 13 cao	**A1**

Answer: (a) 1800, 1300; (b) 18 : 13

Question 15

males 1480, females 1470	**B1**
divides by a common factor	**M1**
148 : 147 cao	**A1**

Answer: (a) 1480, 1470; (b) 148 : 147

Question 16

3 / 9 or 360 / 9 x 3	**M1**
120 cao	**A1**
12 x 120 / 360	**M1**
4 cao	**A1**

Answer: (a) 120; (b) 4

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